PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:
see form PCT/ISA/220

REC'D 0 4 MAY 2006
WIPO PCT

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference	**FOR FURTHER ACTION**
see form PCT/ISA/220	See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US2005/034302	23.09.2005	30.09.2004

International Patent Classification (IPC) or both national classification and IPC
INV. G06F9/455 G06F9/46

Applicant
CITRIX SYSTEMS, INC.

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1. This opinion contains indications relating to the following items:

   ☒ Box No. I   Basis of the opinion

   ☐ Box No. II   Priority

   ☒ Box No. III   Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

   ☒ Box No. IV   Lack of unity of invention

   ☐ Box No. V   Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

   ☐ Box No. VI   Certain documents cited

   ☐ Box No. VII   Certain defects in the international application

   ☐ Box No. VIII   Certain observations on the international application

2. **FURTHER ACTION**

   If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

   If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

   For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:	Authorized Officer
European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Lo Turco, S Telephone No. +49 89 2399-6969

Box No. I   Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

    ☐   This opinion has been established on the basis of a translation from the original language into the following language   , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

    a. type of material:

      ☐   a sequence listing

      ☐   table(s) related to the sequence listing

    b. format of material:

      ☐   in written format

      ☐   in computer readable form

    c. time of filing/furnishing:

      ☐   contained in the international application as filed.

      ☐   filed together with the international application in computer readable form.

      ☐   furnished subsequently to this Authority for the purposes of search.

3. ☐   In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

Box No. III   Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

☐   the entire international application,

☒   claims Nos. 1-66

because:

☐   the said international application, or the said claims Nos.   relate to the following subject matter which does not require an international preliminary examination *(specify)*:

☒   the description, claims or drawings *(indicate particular elements below)* or said claims Nos.   1-66   are so unclear that no meaningful opinion could be formed *(specify)*:

see separate sheet

☐   the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐   no international search report has been established for the whole application or for said claims Nos.

☐   the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:

the written form   ☐   has not been furnished

                          ☐   does not comply with the standard

the computer readable form   ☐   has not been furnished

                          ☐   does not comply with the standard

☐   the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.

☐   See separate sheet for further details

Box No. IV   Lack of unity of invention

1. ☒   In response to the invitation (Form PCT/ISA/206) to pay additional fees, the applicant has:

    ☒   paid additional fees.

    ☐   paid additional fees under protest.

    ☐   not paid additional fees.

2. ☐   This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rule 13.1, 13.2 and 13.3 is

    ☐ complied with

    ☒ not complied with for the following reasons:

    see separate sheet

4. Consequently, this report has been established in respect of the following parts of the international application:

    ☒ all parts.

    ☐ the parts relating to claims Nos.

Form PCT/ISA/237 (January 2004)

1. Document references

The following documents are referred to in this communication; the numbering will be adhered to in the rest of the procedure:

D1: WO 01/25894
D2: US 2003/0101292
D3: XP 002376994 - "Taking Command of Windows XP"

2. Lack of Unity

In the opinion of this International Searching Authority the present application lacks unity within the meaning of Rule 13.1 PCT, the reasons therefore being the following.

2.1 Different inventions

For the present application as originally filed, it appears that two inventions can be identified as related to the subject-matter of the following groups of claims.

- claims 1-29 (first invention) deal with a method (and a system) for virtualizing access to windows. A request relating to a window from a process executing in the context of a user account is received, the request including a virtual window name. A determination is made for a literal name for the window, using a scope-specific identifier. A request is issued to the operating system including the determined literal window name. A window handle is associated with the determined virtual window name [see description on page 3 lines 25-31]; and

- claims 30-66 (second invention) deal with a method (and a system) for associating a file type of a file with one or more programs. A request is received to store in a configuration store file type association information. It is determined from the request an application program to be associated with a file type in the configuration store. An association of the file type with a chooser tool is written to the configuration store [see description on page 5 lines 17-22].

2.2 "A priori" lack of unity

Lack of unity of inventions is apparent "a priori", that is, before considering the claims in

relation to any prior art, the reason therefor being that the two inventions are not so linked as to form a single general inventive concept (see Rule 13.1 PCT - "requirement of unity of invention").

Following are two written opinions, each of them related to one of the two inventions as above mentioned.

A. Written Opinion in relation to the first invention (claims 1-29)

A.1 Conciseness

A.1.1 The present application does not meet the requirements of Article 6 PCT, the reason therefor being that the present claims 1, 10, 14, 20 and 21 have been drafted as separate independent claims, whereby claims 1, 10, 20 and 21 are method claims and claims 14 is a system claim.

In fact, although these claims have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter and to differ from each other only with regard to the definition of the subject-matter for which protection is sought and in respect of the terminology used for the features of that subject-matter. The aforementioned system claims therefore lack conciseness.

In order to overcome this objection, it would appear appropriate to file an amended set of claims defining the relevant subject-matter in terms of a single independent claim in each category followed by dependent claims covering features which are merely optional (Rule 6.4 PCT).

Moreover, the present application does not meet the requirements of Article 6 PCT, the reasons therefor being that the plurality of independent claims makes it difficult, if not impossible, to determine the matter for which protection is sought, and places an undue burden on others seeking to establish the extent of the protection.

A.1.2 Moreover, the present application does not meet the requirement of Article 6 PCT, the reason being that a lack of clarity of the claims as a whole arises, since the plurality of independent and dependent claims makes it difficult, if not impossible, to determine the matter for which protection is sought, and places an undue burden on others seeking to establish the extent of the protection. Hence, the claims as a whole do not meet the requirements of Article 6 PCT.

In order to overcome this objection, it would appear appropriate to amend the present set of claims in such a way to fulfill the requirement of Rule 6.1 (a) PCT. In addition, dependent claims should be grouped according to the independent claims they depend on (Rule 6.4 © PCT).

A.2 Clarity

The present application does not meet the requirements of Article 6 PCT, the reasons therefor being stated below.

A.2.1 The subject-matter of independent claim 14 for which protection is sought is not clearly defined. From the wording of said claim, it is not possible to understand whether the subject-matter claimed is directed to a system ["A apparatus for virtualizing access to windows ..."] or to a computer program ["... a window name virtualization engine ...", wherein an engine might be a program; and "an operating system interface", wherein such an interface might be an API to the OS]. Moreover, the terms "mechanism", "engine" and "interface" have no well-recognised technical meaning when comprised in an apparatus. This facts render uncertain the determination of the category of the claim and hence the assessment of the extent of the subject-matter intended to be claimed. It might be preferable to formulate a claim in the category "system" according to the scheme "An apparatus for virtualizing access to windows ... comprising means adapted to perform the following method steps: method step A; method step B; etc.".

A.2.2 The references "step (a)", "step (b)" and "step(d)" used for instance in dependent claims 2, 5 and 7 respectively, are unclear because such steps are not indicated in the independent claim 1 on which said dependent claims depend.

A.3 Non-establishment of Opinion (Item III)

When considering the extent of the above conciseness and clarity objections raised under the provision of Art. 6 PCT concerning the present set of claims, it is not considered feasible at the present stage of the procedure to give an opinion with regard to the requirements of Novelty, Inventive Step and Industrial Applicability as set out in Art. 33 (2), (3) and (4) PCT.

However, in order to give the applicant the possibility to amend the present set of claims with a view to the requirements of novelty, inventive step and industrial applicability as set out in the above mentioned articles, a brief summary of the prior art will follow.

According to the description, it appears that the present application is directed to a method for virtualizing access to windows (namely, to native resources of the operating system) that allows the installation and execution of application programs that are incompatible with

each other, and <u>incompatible versions</u> of the same application program, on a single computer. Furthermore, it allows the installation and execution on a multi-user computer of programs that were created for a single-user computer or were created without consideration for issues that arise when executing on a multi-user computer. This is accomplished by <u>virtualizing user and application accesses to native resources</u>, such as the file system, the registry database, system objects, window classes and window names, <u>without modification of the application programs or the underlying operating system</u> [see description page 3 lines 3-26].

Document D1, which is provisionally considered to represent the most relevant state of the art, discloses [see D1 from page 2 line 21 to page 3 line 10] a method for creating *virtual application templates* for the purpose of propagating a single *application snapshot* into multiple, distinct images. According to this method, snapshot virtual templates <u>allow multiple application instances to use the same fixed resource identifier by making the resource identifier virtual, privatizing it, and dynamically mapping it to a unique system resource identifier</u>. When a snapshot is cloned from a virtual template, the common or shared data is used exactly as is, whereas <u>the non-sharable data is either copied-on-write, multiplexed, virtualized, or customized-on-duplication</u>. Snapshot virtual templating works by <u>noting access to modified resources, fixed system IDs/keys and unique process-related identifies and automatically inserting a level of abstraction between these resources and the application</u>.

Moreover, the prior art document D2, which is provisionally considered to be equivalent to document D1 as closest prior art, discloses [see D2 on page 1 paragraphs 2, 9, 10 and 17] a method for <u>isolating applications executing on a multiprogrammed system from each other so as to avoid interference between the applications</u>. This method can be used to gain control over execution of an application such that, where necessary, the application code can be manipulated such that illegal operations can be prevented before they occur without significant overhead. This can be accomplished by dynamically modifying the application code with a dynamic execution layer interface such that the application can self-check during execution.

Thus, it appears to this International Preliminary Searching Authority that the method known from document D1 (or from document D2) in combination with common general knowledge <u>would render the solution to the problem of the present application indicated by the present application itself obvious</u>. In fact, if the skilled person wished to <u>virtualize access to native resources such as window classes and window names</u>, he/she would

provide an arrangement with common knowledge <u>about graphical resources management (the Win32 API, for instance)</u> according to D1 without having made an inventive step.

A.4 Formal Objections

A.4.1 Should the applicant nevertheless regard some particular matter as inventive, an independent claim including such matter should be filed taking account of Rule 6.3(b) PCT. Present independent claims are not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art (document D1 or D2) being placed in a preamble (Rule 6.3(b)(I) PCT) and with the remaining features being included in a characterising part (Rule 6.3(b)(ii) PCT).

A.4.2 Furthermore, the features of present independent claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT). Independent claims should therefore be redrafted accordingly. If, however, the applicant is of the opinion that the two-part form would be inappropriate, then reasons therefor should be provided in the letter of reply. In addition, the applicant should ensure that it is clear from the description which features of the claimed subject-matter are known from documents D1 or D2 (see the PCT Guidelines PCT/GL/3 III, 2.3a). The applicant should also indicate in the letter of reply <u>the difference of the subject-matter of the new claim vis-à-vis the state of the art, preferably adopting a problem-solution approach, and the significance thereof</u>.

A.4.3 Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1 and D2 is not mentioned in the description, nor are these documents identified therein.

A.4.4 The applicant is requested to file amendments by way of replacement pages in the manner stipulated by Rule 66.8(a) PCT. In particular, fair copies of the amendments should be filed preferably in triplicate.

A.4.5 Moreover, the applicant's attention is drawn to the fact that, as a consequence of Rule 66.8(a) PCT, the examiner is not permitted to carry out any amendments under the PCT procedure, however minor these may be.

A.4.6 Any statement hinting to subject-matter beyond the scope of the claims should be removed from the description [see for instance the application on page 103 last

paragraph].

B. Written Opinion in relation to the second invention (claims 30-66)

B.1 Conciseness

The present application does not meet the requirements of Article 6 PCT, the reason therefor being that the present claims 30, 44 and 54 have been drafted as separate independent claims, whereby claims 30 and 44 are method claims.

In fact, although these claims have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter and to differ from each other only with regard to the definition of the subject-matter for which protection is sought and in respect of the terminology used for the features of that subject-matter. The aforementioned system claims therefore lack conciseness.

In order to overcome this objection, it would appear appropriate to file an amended set of claims defining the relevant subject-matter in terms of a single independent claim in each category followed by dependent claims covering features which are merely optional (Rule 6.4 PCT).

Moreover, the present application does not meet the requirements of Article 6 PCT, the reasons therefor being that the plurality of independent claims makes it difficult, if not impossible, to determine the matter for which protection is sought, and places an undue burden on others seeking to establish the extent of the protection.

B.2 Clarity

The present application does not meet the requirements of Article 6 PCT, the reasons therefor being stated below.

B.2.1 The subject-matter of independent claim 54 for which protection is sought is not clearly defined. From the wording of said claim, it is not possible to understand whether the subject-matter claimed is directed to a system ["A system for invoking ..."] or to the steps of a method ["... a redirector obtaining ... the redirector writing ..."]. Moreover, the term "redirector" has no well-recognised technical meaning when comprised in an apparatus. This facts render uncertain the determination of the category of the claim and hence the assessment of the extent of the subject-matter intended to be claimed. It might be preferable to formulate a claim in the category "system" according to the scheme "An

system for invoking ... comprising means adapted to perform the following method steps: method step A; method step B; etc.".

B.2.2 The references "step (a)", "step (b)" and "step(d)" used for instance in dependent claims 45, 46 and 47 respectively, are unclear because such steps are not indicated in the independent claim 44 on which said dependent claims depend.

B.3 Non-establishment of Opinion (Item III)

When considering the extent of the above conciseness and clarity objections raised under the provision of Art. 6 PCT concerning the present set of claims, it is not considered feasible at the present stage of the procedure to give an opinion with regard to the requirements of Novelty, Inventive Step and Industrial Applicability as set out in Art. 33 (2), (3) and (4) PCT.

However, in order to give the applicant the possibility to amend the present set of claims with a view to the requirements of novelty, inventive step and industrial applicability as set out in the above mentioned articles, a brief summary of the prior art will follow.

According to the description, it appears that the present application is directed to a method (and a system) for associating a file type of a file with one or more programs. A request is received to store in a configuration store file type association information. It is determined from the request an application program to be associated with a file type in the configuration store. An association of the file type with a chooser tool is written to the configuration store [see description on page 5 lines 17-22].

Document D3, which is provisionally considered to represent the most relevant state of the art, discloses [see D3 from page 11 to page 14] a tool that let users of Windows XP control which programs are associated with various file types, that is, which programs should the operating system use to open said files. This tool has a graphical user interface, namely the "Open With" dialog box, which allows for the management of said file association, for instance it allows to modify it.

Thus, it appears to this International Preliminary Searching Authority that the method according to the tool disclosed by D3 has all the technical feature of the present application.

B.4 Formal Objections

B.4.1 Should the applicant nevertheless regard some particular matter as inventive, an independent claim including such matter should be filed taking account of Rule 6.3(b) PCT. Present independent claims are not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art (document D3) being placed in a preamble (Rule 6.3(b)(I) PCT) and with the remaining features being included in a characterising part (Rule 6.3(b)(ii) PCT).

B.4.2 Furthermore, the features of present independent claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT). Independent claims should therefore be redrafted accordingly. If, however, the applicant is of the opinion that the two-part form would be inappropriate, then reasons therefor should be provided in the letter of reply. In addition, the applicant should ensure that it is clear from the description which features of the claimed subject-matter are known from document D3 (see the PCT Guidelines PCT/GL/3 III, 2.3a). The applicant should also indicate in the letter of reply <u>the difference of the subject-matter of the new claim vis-à-vis the state of the art, preferably adopting a problem-solution approach, and the significance thereof</u>.

B.4.3 Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the document D3 is not mentioned in the description, nor are these documents identified therein.

B.4.4 The applicant is requested to file amendments by way of replacement pages in the manner stipulated by Rule 66.8(a) PCT. In particular, fair copies of the amendments should be filed preferably in triplicate.

B.4.5 Moreover, the applicant's attention is drawn to the fact that, as a consequence of Rule 66.8(a) PCT, the examiner is not permitted to carry out any amendments under the PCT procedure, however minor these may be.

B.4.6 Any statement hinting to subject-matter beyond the scope of the claims should be removed from the description [see for instance the application on page 103 last paragraph].